AMENDMENTS TO THE CLAIMS

1. (Original) A system comprising:

traffic beam forming circuitry operable to provide a plurality of traffic beams formed from a same signal;

common use beam forming circuitry operable to provide a common use beam formed from said signal; and

beam analysis circuitry coupled to said traffic beam forming circuitry and said common use beam forming circuitry, wherein said beam analysis circuitry operates to analyze each traffic beam of said plurality of traffic beams with respect to said common use beam.

2. (Original) The system of claim 1, wherein said signal is a pilot signal associated with a particular subscriber unit.

3. (Currently Amended) The system of claim 2, further comprising:

pilot integration circuitry coupled to each of said traffic beam forming circuitry and said common use beam forming circuitry, wherein said pilot integration circuitry provides independent integration of said pilot signal as communicated by different antenna elements of an antenna array.

4. (Currently Amended) The system of claim 3, wherein an integration period of said pilot integration circuitry is established to be ~~sorter~~ shorter than a Doppler period associated with said system.

5. (Original) The system of claim 3, wherein an integration period of said pilot integration circuitry is in the range of from about 1 millisecond to about 3 milliseconds.

6. (Original) The system of claim 1, wherein said plurality of traffic beams include a plurality of traffic beams having a same bore sight direction and a different other beam attribute.

7. (Original) The system of claim 6, wherein said different other beam attribute includes a beam width.

8. (Original) The system of claim 6, wherein said different other beam attribute includes a signal gain.

9. (Original) The system of claim 1, wherein said plurality of traffic beams include a plurality of beams having different bore sights in substantially equal increments throughout a beam width associated with said common use beam.

10. (Original) The system of claim 9, wherein said substantially equal increments are approximately 1 degree increments.

11. (Original) The system of claim 1, wherein said common use beam substantially provides a sector beam configuration.

12. (Original) The system of claim 1, wherein said common use beam provides a beam width configuration substantially wider than a plurality of beam width configurations of said plurality of traffic beams.

13. (Original) The system of claim 1, wherein said common use beam is formed with respect to a first link direction and emulates a beam utilized in conducting communications in a second link direction.

14. (Original) The system of claim 1, further comprising:

an antenna array having a plurality of antenna elements disposed in a predetermined geometry to facilitate beam forming by said traffic beam forming circuitry and said common use beam forming circuitry, wherein said signal as communicated by different antenna elements of said antenna array is provided discretely between said antenna array and said traffic beam forming circuitry and between said antenna array and said common use beam forming circuitry.

15. (Original) The system of claim 14, wherein said antenna array is a small aperture antenna array.

16. (Original) The system of claim 1, wherein said traffic beam forming circuitry and said common use beam forming circuitry form beams in a first link direction, thereby providing first link direction traffic beam forming circuitry and first link direction common use beam forming circuitry, said system further comprising:

second link direction traffic beam forming circuitry operable to provide a plurality of traffic beams formed from traffic signals communicated by said system, wherein an optimum traffic beam configuration is identified from said analysis of each traffic beam of said plurality of traffic beams with respect to said common use beam provided by said analysis circuitry, and wherein a traffic beam formed with respect to a particular traffic signal is formed as a function of said optimum traffic beam configuration; and

second link direction common use beam forming circuitry operable to provide a common use beam formed from a common use signal communicated by said system.

17. (Original) The system of claim 16, wherein at least two traffic beams of said plurality of traffic beams are provided simultaneously by said second link direction traffic beam forming circuitry.

18. (Original) The system of claim 17, wherein said at least two traffic beams are selected at least in part from spatial information with respect to said at least two traffic beams.

19. (Original) A method comprising:

forming a plurality of traffic beams having different attributes from a same signal;

forming a common use beam from said signal; and

analyzing each traffic beam of said plurality of traffic beams with respect to said common use beam to thereby identify a traffic beam of said plurality of traffic beams having a highest combined signal power level and phase correlation to said common use beam.

20. (Original) The method of claim 19, wherein said signal is a signal associated with a particular subscriber unit.

21. (Original) The method of claim 20, wherein said signal is a pilot signal.

22. (Original) The method of claim 20, further comprising:

integrating said signal as communicated by different antenna elements of an antenna array.

23. (Currently Amended) The method of claim 22, wherein an integration period associated with said integrating said signal is ~~sorter~~ shorter than a Doppler period associated with said particular subscriber unit.

24. (Original) The method of claim 22, wherein an integration period associated with said integrating said signal is in the range of from about 1 millisecond to about 3 milliseconds.

25. (Original) The method of claim 19, wherein said plurality of traffic beams include a plurality of traffic beams having a same bore sight direction and a different other beam attribute.

26. (Original) The method of claim 25, wherein said different other beam attribute includes a beam width.

27. (Original) The method of claim 25, wherein said different other beam attribute includes a signal gain.

28. (Original) The method of claim 19, wherein said plurality of traffic beams include a plurality of beams having different bore sights in substantially equal increments throughout a beam width associated with said common use beam.

29. (Original) The method of claim 28, wherein said substantially equal increments are approximately 1 degree increments.

30. (Original) The method of claim 19, wherein said common use beam substantially provides a sector beam configuration.

31. (Original) The method of claim 19, wherein said common use beam provides a beam width configuration substantially wider than a plurality of beam width configurations of said plurality of traffic beams.

32. (Original) The method of claim 19, wherein said common use beam is formed with respect to a first link direction and emulates a common use beam utilized in conducting communications in a second link direction.

33. (Original) The method of claim 19, further comprising:

forming a first traffic beam having attributes derived from said identified traffic beam to communicate a first traffic signal having a common use signal associated therewith; and

forming a common use beam having attributes consistent with that of said common use beam formed from said signal to communicate said common use signal.

34. (Original) The method of claim 33, further comprising:

forming a second traffic beam to communicate a second traffic beam having said common use signal associated therewith, wherein said first traffic signal and said second traffic signal are communicated simultaneously.

35. (Original) The method of claim 34, wherein said first traffic beam and said second traffic beam are selected at least in part from spatial information with respect to said at least two traffic beams.

36. (Original) A method of providing optimized forward link traffic beams in a communication system, said method comprising:

emulating a forward link channel characteristic in the reverse link;

forming a plurality of beams having different attributes in said reverse link;

identifying a beam configuration of said plurality of beams having a most desirable attribute with respect to said emulated forward link channel characteristic; and

providing said optimized forward link traffic beam as a function of said identified beam configuration.

37. (Original) The method of claim 36, wherein said emulated forward link channel characteristic is associated with a common pilot used in said forward link.

38. (Original) The method of claim 37, wherein said emulated forward link channel characteristic is a beam width.

39. (Original) The method of claim 38, wherein said beam width is a sector beam width.

40. (Original) The method of claim 36, wherein said plurality of beams include a plurality of beams having a same bore sight direction and a different other beam attribute.

41. (Original) The method of claim 36, wherein said plurality of beams include a plurality of beams having different bore sights in substantially equal increments.

42. (Original) The method of claim 36, wherein said most desirable attribute includes a most desirable phase match and signal gain combination.

43. (Original) The method of claim 36, further comprising:

providing another independently optimized forward link beam simultaneously with providing said optimized forward link traffic beam, wherein traffic signals communicated in each of said optimized forward link beams have a same pilot signal associated therewith.